AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) A data recording apparatus for recording and playing a stream of encoded digital data, said data recording apparatus comprising:

a receiver unit ~~that receives~~ operable to receive the ~~a~~ stream of encoded digital data;

an analyzer ~~that detects~~ operable to detect a change in an attribute of the stream of encoded digital data received by ~~the~~ said receiver unit and ~~that outputs~~ operable to output detection data containing information which indicates the detection of the change in the attribute of the stream of encoded digital data;

a controller ~~that generates~~ operable to generate management information containing

the detection data ~~information~~ output by ~~the~~ said analyzer, ~~and~~

time information indicating ~~detection time of the change as~~ a time at which the change in the attribute of the stream of encoded digital data was detected,

a first entry point, which is defined based on the time information, wherein the first entry point is an access point from which the stream of encoded digital data is operable to begin playing, and

a second entry point, which represents a user-defined access point selected from any point within the stream of encoded digital data, from which the stream of encoded digital data is operable to begin playing;

a drive ~~that records~~ operable to record the management information generated by ~~the~~ said controller and operable to record the stream of encoded digital data received by ~~the~~ said receiving unit to a data storage medium; and

an input unit ~~that defines a~~ operable to receive a user input by which the user selects the user-defined access point from any point within the stream of encoded digital data, and operable to define the second entry point ~~which is set relative to~~ based on the user input and a playback path of the stream of encoded digital data ~~and is used to access and read from a particular point in the stream;~~.

~~said controller further generating the management information containing the first entry point and the second entry point respectively identified.~~

Claim 2 (Currently Amended) A data recording apparatus according to claim 1, wherein ~~the controller generates~~ the management information ~~including~~ further includes a first table containing the first entry point and a second table containing the second entry point.

Claim 3 (Currently Amended) A data recording apparatus according to claim 1, wherein ~~the controller generates~~ the management information ~~including~~ further includes separate identification flags for the first entry point and the second entry point.

Claim 4 (Currently Amended) A data recording apparatus according to claim 2, wherein ~~the~~ said analyzer ~~detects~~ is operable to detect at least one of the following as the change in the attribute of the stream of encoded digital data received by said receiver unit:

a change in a broadcast program when the stream is a digital broadcast stream~~;~~;

a change of PSI/SI information in a digital broadcast stream that controls the playback of the stream~~;~~;

a change in a multi-view attribute~~;~~;

a change back to a starting point of a data carousel~~;~~;

a change in content of ~~the~~ a data carousel~~;~~;

a change in a program map table (PMT)~~;~~;

a module change~~;~~;

a change of a data event~~;~~;

a change in parental control information~~;~~;

a change in an audio stream attribute~~;~~; and

a change in sequence header information when the stream is a digital broadcast MPEG video stream.

Claim 5 (Currently Amended) A data recording apparatus according to claim 4, wherein the management information contains link information corresponding to AV data recorded on the data storage medium for the first entry point and the second entry point.

Claim 6 (Currently Amended) A data recording apparatus according to claim 2, further comprising:

a reading unit ~~that reads~~ operable to read the management information and operable to read the stream of encoded digital data recorded on the data storage medium;

a decoder ~~that decodes~~ operable to decode the stream of encoded digital data read by ~~the~~ said reading unit; and

an output unit ~~that outputs~~ operable to output the management information read by ~~the~~ said reading unit and operable to output the stream decoded by ~~the~~ said decoder, wherein

~~in the case the second entry point is input from the input unit, the~~ said reading unit ~~reading~~ is operable to read the management information upon the second entry point being defined by said input unit, and ~~the~~ said output unit ~~displaying~~ is then operable to display the first entry point contained in the first table and the second entry point previously ~~input~~ defined and contained in the second table of the management information.

Claim 7 (Currently Amended) A data recording apparatus according to claim 2, further comprising:

a reading unit ~~that reads~~ operable to read the management information and operable to read the stream of encoded digital data recorded on the data storage medium;

a decoder ~~that decodes~~ operable to record the stream of encoded digital data read by ~~the~~ said reading unit; and

an output unit ~~that outputs~~ operable to output the management information read by ~~the~~ said reading unit and operable to output the stream decoded by ~~the~~ said decoder, wherein

~~the~~ said reading unit ~~reading~~ is operable to read the management information, and ~~the~~ said output unit is then operable to display ~~displaying~~ the second entry point contained in the second table of the management information.

Claim 8 (Currently Amended) A data recording apparatus according to claim 3, wherein the data storage medium is an optical disc.

Claim 9 (Currently Amended) A data recording method for recording and playing a stream of encoded digital data, said data recording method comprising:

receiving a stream of encoded digital data;

detecting a change in an attribute of the received stream of encoded digital data ~~received by the receiver unit~~ and outputting detection data containing information which indicates the detection of the change in the attribute of the stream of encoded digital data;

generating management information containing

the detection data ~~information, and~~

time information indicating a time at which the change in the attribute of the stream of encoded digital data was detected ~~detection time of the change,~~

~~as~~ a first entry point, which is defined based on the time information, wherein the first entry point is an access point from which the stream of encoded digital data is operable to begin playing, and

a second entry point, which represents a user-defined access point selected from any point within the stream of encoded digital data, from which the stream of encoded digital data is operable to begin playing;

recording the ~~generated~~ management information generated by said generating of the management information and recording the stream of encoded digital data received ~~stream~~ by said receiving of the stream of encoded digital data to a data storage medium; and

defining ~~a~~ the second entry point based on a user input by which the user selects the user-defined access point from any point within the stream of encoded digital data, and based on ~~which is set relative to~~ a playback path of the stream of encoded digital data ~~and is used to access and read from a particular point in the stream,~~.

~~said generating further generating the management information containing the first entry point and the second entry point separately identified.~~

Claim 10 (Currently Amended A data recording method according to claim 9, wherein ~~said generating generates~~ the management information ~~including~~ further includes a first table containing the first entry point and a second table containing the second entry point.

Claim 11 (Currently Amended) A data recording method according to claim 9, wherein ~~said generating generates~~ the management information ~~including~~ further includes separate identification flags for the first entry point and the second entry point.

Claim 12 (Currently Amended) A ~~computer-executable,~~ computer-readable recording medium for storing a data recording program for recording and playing a stream of encoded digital data, said data recording program being operable to ~~comprising~~:

~~receiving~~ receive a stream of encoded digital data;

detect~~ing~~ a change in an attribute of the received stream of encoded digital data ~~received by the receiver unit~~ and output~~ting~~ detection data containing information which indicates the detection of the change in the attribute of the stream of encoded digital data;

~~generating~~ generate management information containing

the detection data ~~information, and~~

time information indicating a time at which the change in the attribute of the stream of encoded digital data was detected ~~detection time of the change,~~

~~as~~ a first entry point, which is defined based on the time information, wherein the first entry point is an access point from which the stream of encoded digital data is operable to begin playing, and

a second entry point, which represents a user-defined access point selected from any point within the stream of encoded digital data, from which the stream of encoded digital data is operable to begin playing;

record~~ing~~ the generated management information and record the received stream of encoded digital data ~~received stream~~ to a data storage medium; and

~~defining~~ define ~~a~~ the second entry point based on a user input by which the user selects the user-defined access point from any point within the stream of encoded digital data, and based on ~~which is set relative to~~ a playback path of the stream of encoded digital data ~~and is used to access and read from a particular point in the stream,~~.

~~said generating further generating the management information containing the first entry point and the second entry point separately identified.~~

Claim 13 (Currently Amended) A computer-readable recording medium for storing the data recording program according to claim 12, wherein ~~said generating generates~~ the management information ~~including~~ further includes a first table containing the first entry point and a second table containing the second entry point.

Claim 14 (Currently Amended) A computer-readable recording medium for storing the data recording program according to claim 12, wherein ~~said generating generates~~ the management information ~~including~~ further includes separate identification flags for the first entry point and the second entry point.

Claim 15 (Cancelled)